

**We Claim:**

- 1    1.    A method for classifying vertically partitioned data comprising the steps of:  
2                categorizing subsets of classifiers for the partitioned data;  
3                determining class labels for a data pattern of the partitioned data for  
4                which the classifier subsets are consistent;  
5                estimating posterior probabilities for the class labels of consistent  
6                classifier subsets; and  
7                approximating the posterior probability of the partitioned data based  
8                upon the estimated posterior probabilities of the consistent classifier subsets.
- 1    2.    The method as claimed in claim 1, further comprising the step of using a  
2                predetermined consistency condition for a classifier with respect to other  
3                classifiers.
- 1    3.    The method as claimed in claim 1, further comprising the step of determining the  
2                mutual consistency of each classifier with respect to the other classifiers in a  
3                classifier subset.
- 1    4.    The method as claimed in claim 1, wherein the posterior probability is  
2                approximated from the estimated posterior probabilities using a Bayesian  
3                framework.
- 1    5.    The method as claimed in claim 1, wherein the class label is selected for the test  
2                data for which the combined posterior is maximum.
- 1    6.    A computer program product for classifying partitioned data comprising  
2                computer software recorded on a computer-readable medium for performing the  
3                steps of:  
4                categorizing subsets of classifiers for the partitioned data;  
5                determining class labels for a data pattern of the partitioned data for  
6                which the classifier subsets are consistent;

7                   estimating posterior probabilities for the class labels of consistent  
8 classifier subsets; and

9                   approximating the posterior probability of the partitioned data based  
10 upon the estimated posterior probabilities of the consistent classifier subsets.

- 1   7.   A computer system for classifying partitioned data comprising computer  
2 software recorded on a computer-readable medium for performing the steps of:  
3           categorizing subsets of classifiers for the partitioned data;  
4           determining class labels for a data pattern of the partitioned data for  
5 which the classifier subsets are consistent;  
6           estimating posterior probabilities for the class labels of consistent  
7 classifier subsets; and  
8           approximating the posterior probability of the partitioned data based  
9 upon the estimated posterior probabilities of the consistent classifier subsets.